

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

Claim 1. (Currently amended) A method for providing a set of diverse travel options, the method comprising ~~comprises~~:

21
D
reducing a larger set of travel options to a smaller set of diverse travel options in accordance with diverse travel requirements that represent conditions for a travel option to be considered for inclusion in the set of diverse travel options that includes at least first and second travel options that satisfy first and second travel requirements,

with the first and second travel requirements representing different values in a category of travel requirements, and the travel options including a flight and fare combination.

Claim 2. (Previously presented) The method of claim 1 wherein reducing a larger set of travel options to a smaller set of diverse travel options comprises:

generating one or more travel options consistent for each of the diversity of travel requirements.

Claim 3. (Previously presented) The method of claim 1 wherein reducing a larger set of travel options to a smaller set of diverse travel options comprises:

generating one or more desired travel options consistent with diversity of travel requirements.

Claim 4. (Original) The method of claim 1 wherein reducing a larger set of travel options to a smaller set of diverse travel options further comprises:

generating one or more of the best travel options consistent with a diversity of travel requirements where the travel requirements are dependent on the original set of travel options.

Claim 5. (Original) The method of claim 1 wherein the set of travel requirements includes requirements for different airlines.

Claim 6. (Original) The method of claim 1 wherein the set of travel requirements includes requirements for travel times of day, travel dates, numbers of stops, arrival and departure airports, and cabin class.

Claim 7. (Original) The method of claim 1 wherein the set of travel requirements includes requirements that are combinations of other requirements.

Claim 8. (Original) The method of claim 7 wherein the set of travel requirement combinations include outbound and return travel dates or times of day.

Claim 9. (Original) The method of claim 7 wherein the set of travel requirements combinations include airlines and number of stops, arrival and departure airports.

Claims 10-12. (Cancelled)

Claim 13. (Currently amended) A method generating a diverse list of [N] travel options Rts from a larger list of travel options Ts, comprises:

- generating a prioritized ordered list of requirements Rs;
- sorting the list of travel options Ts by an ordering function F to produce a best-first ordered list Ts2;
- selecting a travel requirement R1 from the list of requirements Rs;

identifying a travel option T1 in the ordered list Ts2 that satisfies the travel requirement R1 that represents a value in a category of travel requirements;
adding the travel option T1 to the diverse list of travel options Rts;
selecting a second travel requirement R2 from the list of requirements Rs;
identifying a travel option T2 in the ordered list Ts2 that satisfies travel requirement R2 that represents a different value in the category of the first travel requirement R1; and
adding the travel option T2 to the diverse list of travel options Rts.

1
0
Claim 14. (Previously presented) The method of claim 13 further comprising:
initializing the list of result travel options Rts to be empty; and if the remaining list of requirements Rs is empty,
returning an ordered list of diverse travel options Rts.

Claim 15. (Previously presented) The method of claim 14 further comprising:
initializing the list of result travel options Rts to be empty; and if the remaining list of requirements Rs is not empty,
selecting a first travel requirement R from the ordered list of requirements (Rs);
and
removing a requirement R from the requirement list (Rs).

Claim 16. (Original) The method of claim 15 further comprising:
finding a first option T in a best-first ordered list (Ts2) that satisfies travel requirements R.

Claim 17. (Previously presented) The method of claim 16 further comprising:
determining whether any option in the Ts2 satisfies the travel requirement.

Claim 18. (Original) The method of claim 17 wherein if no option in Ts2 satisfies R, the method further comprises:

checking if the remaining list of requirements Rs is empty.

Claim 19. (Previously presented) The method of claim 18 wherein if the diversity process determines if a travel option T is not already in the result list Rts,

adding the travel option T to end of the result travel option list Rts; and

determining if the size of the travel option list Rts is equal to or greater than N the process in order to return the ordered list of diverse travel options.

Claim 20. (Original) The method of claim 15 further comprising:

determining for each travel requirement R2 and Rs, whether the requirement R2 includes a requirement R, and T satisfies R2, and if T satisfies R2;

removing R2 from Rs.

Claim 21. (Currently amended) A travel planning system comprising:

a computer system that outputs a set of travel options, smaller than a complete set of travel options that the computer has computed, by pruning the complete set of travel options to a smaller set with a diversity-based pruning process, wherein the diversity-based pruning process produces at least one travel option in the smaller set that satisfies a first travel requirement and at least one other travel option in the smaller set that satisfies a second travel requirement, ~~that is different from the first travel requirement~~ with the first and second travel requirements representing different values in a category of travel requirements.

Claim 22. (Previously presented) The travel planning system of claim 21 wherein the diversity-based pruning process comprises instructions to cause the system to:

generate a diverse list of N travel options Rts from a larger list of travel options

Ts,

generate a prioritized ordered list of requirements R_s ; and
sort the list of travel options T_s by an ordering function F to produce a best-first ordered list T_{s2} with the list of options being optimized travel options for a set of travel requirements R in accordance with the ordering function F .

Claim 23. (Previously presented) The travel planning system of claim 22 further comprising instructions to cause the system to:

initialize the list of result travel options R_{ts} to be empty; and if the remaining list of requirements R_s is empty,

return an ordered list of diverse travel options R_{ts} .

Claim 24. (Previously presented) The travel planning system of claim 23 further comprising instructions to cause the system to:

initialize the list of result travel options R_{ts} to be empty; and if the remaining list of requirements R_s is not empty,

select a first travel requirement R from the ordered list of requirements (R_s); and

remove a requirement R from the requirement list (R_s).

Claim 25. (Previously presented) The method of claim 1 wherein reducing a larger set of travel options to a smaller set of diverse travel options further comprises: evaluating for the travel requirements a set of travel preference functions used to order the larger set of travel options.

Claim 26. (Currently amended) A method executed in a computer system to output a set of travel options, the method comprising:

reducing a larger set of travel options to a smaller set of diverse travel options in accordance with diverse travel requirements that represent conditions for a travel option

to be considered for inclusion in the smaller set of diverse travel options that includes at least first and second travel options that satisfy first and second travel requirements,
with the first and second travel requirements representing different values in a category of travel requirements, ~~wherein~~ and for each of the diverse travel requirements, at least one travel option in the set of diverse travel options representing [[s]] a best travel option from the larger set of travel options for that specific travel requirement.

10
Claim 27. (Previously presented) The method of claim 26 wherein each of the travel options comprise an itinerary and a price.

Claim 28. (Currently amended) A method for generating a diverse set of travel options, the method comprising:

receiving a candidate set of travel options;

for a plurality of travel requirements, with first and second travel requirements representing different values in a category of travel requirements, selecting one or more travel options for a specified travel requirement that satisfies that specified travel requirement; and

combining the travel options selected for the plurality of travel requirement to generate the diverse set of travel options that includes at least first and second travel options that satisfy the first and second travel requirements.

Claim 29. (Previously presented) The method of claim 28 further comprising rendering the diverse set of travel options on an output device.

Claim 30. (Currently amended) The method of claim 28 further comprising eliminating from the plurality of travel requirements a ~~first~~ third travel requirement when the one or more travel options selected for a ~~second~~ fourth travel requirement satisfy the first travel requirement.

Claim 31. (Previously presented) The method of claim 28 wherein at least one of the travel requirements within the plurality is not a user entered travel requirement.

Claim 32. (Currently amended) The method of claim 28 wherein the category for travel requirements comprise, travel on a particular carrier, ~~non-stop travel~~ number of stops, outbound travel departing in a predefined time period, return travel departing in a predefined time period, non-stop travel on a particular airline, or travel with an outbound departure on a first predefined date and a return arrival on a second predefined date.

Claim 33. (Currently amended) The method of claim 32 wherein the values for the predefined time period comprise[[s]] morning, afternoon, evening or a predefined date.

Claim 34. (Previously presented) The method of claim 28 further comprising defining a template of travel requirements.


Claim 35. (Currently amended) The method of claim 34 ~~wherein generating the plurality of travel requirements comprises~~ further comprising generating the plurality of travel requirements based at least in part on the template and the candidate set of travel options.

Claim 36. (Previously presented) The method of claim 34 further comprising analyzing the candidate set of travel options to determine parameter values for the template.

Claim 37. (Previously presented) The method of claim 34 wherein the template comprises travel on a particular carrier, non-stop travel, outbound travel departing in a predefined time period, return travel departing in a predefined time period, non-stop travel on a particular airline, or travel with an outbound departure on a first predefined date and a return arrival on a second predefined date.

Claim 38. (Previously presented) The method of claim 37 wherein the predefined time period comprises morning, afternoon, evening or a predefined date.

Claims 39-42. (Cancelled)

 Claim 43. (Currently amended) An article of manufacture having computer-readable program portions embodied therein for generating a diverse set of travel options, the article comprising instruction for causing a processor to:

receive a candidate set of travel options;

generate a plurality of travel requirements, with first and second travel requirements representing different values in a category of travel requirements;

select one or more travel options for each of the plurality of travel requirement that satisfy that respective travel requirement; and

combine the one or more travel options selected for each requirement to generate a diverse set of travel options that includes at least first and second travel options that satisfy the first and second travel requirements.

Claim 44. (Currently amended) An article of manufacture having computer-readable program portions embodied therein for generating a diverse set of travel options, the article comprising instructions for causing a processor to:

generate a first ordered set of travel options using a first preference function;

select ~~a predefined number of best~~ travel options from the first set, the selected travel options corresponding to a plurality of diverse travel requirements;

generate a second ordered set of travel options using a second preference function, the second preference function being different from the first preference function;

select ~~a predefined number of best~~ travel options from the second set, the selected travel options corresponding to a plurality of diverse travel requirements; and
combine the selected travel options to generate the diverse set of travel options.

Claim 45. (Previously presented) The article of claim 44 further comprising instructions for causing a processor to generate a plurality of travel requirements,

wherein the computer-readable program portion for selecting a predefined number of best travel options from the first set further comprises for each travel requirement, selecting one or more travel options from the first set that satisfy that travel requirement, and

wherein the computer-readable program portion for selecting a predefined number of best travel options from the second set further comprises for each travel requirement, selecting one or more travel options from the second set that satisfy that travel requirement.

Claim 46. (New) A method for generating a diverse set of travel options, the method comprising:

determining a candidate set of travel options, the candidate set of travel options being based on user input;

defining a set of diversity requirements, with defining comprising:

establishing a plurality of travel requirement templates, for each travel requirement template,

defining a plurality of travel requirements, each of the travel requirements corresponding to a different value of the respective travel requirement template to produce the set of diversity requirements, and for each travel requirement in the set of diversity requirements,

selecting from the candidate set of travel options a travel option that satisfies that travel requirement;

combining the selected travel options for the travel requirements to generate the diverse set of travel options; and

displaying the diverse set of travel options to a user.

Claim 47. (New) The method of claim 46 wherein values for a particular travel requirement template are based on the candidate set of travel options.

Claim 48. (New) The method of claim 46 wherein the plurality of travel requirement templates include particular carriers, number of stops, outbound travel departing in a predefined time period, return travel departing in a predefined time period, or travel with an outbound departure on a first predefined date and a return arrival on a second predefined date.

Claim 49. (New) The method of claim 48 wherein values for the travel requirement template of particular carriers with corresponding travel requirements including a first particular airline and a second, different particular airline.

Claim 50. (New) An article of manufacture having computer-readable program portions embodied therein for generating a diverse set of travel options, the article comprising instructions for causing a processor to:

determine a candidate set of travel options, the candidate set of travel options being based on user input;

define a set of diversity requirements with instructions to define comprising instructions to:

establish a plurality of travel requirement templates, for each travel requirement template,

define a plurality of travel requirements, each of the travel requirements corresponding to a different value of the respective travel requirement template to

produce the set of diversity requirements, and for each travel requirement in the set of diversity requirements,
select from the candidate set of travel options a travel option that satisfies that travel requirement;
combine the selected travel options for the travel requirements to generate the diverse set of travel options; and
display the diverse set of travel options to a user.

Claim 51. (New) The article of claim 50 wherein values for a particular travel requirement template are based on the candidate set of travel options.

Claim 52. (New) The article of claim 50 wherein the plurality of travel requirement templates include particular carriers, number of stops, outbound travel departing in a predefined time period, return travel departing in a predefined time period, or travel with an outbound departure on a first predefined date and a return arrival on a second predefined date.

Claim 53. (New) The article of claim 52 wherein values for the travel requirement template of particular carriers with corresponding travel requirements include a first particular airline and a second, different particular airline.
